

Amendments to the Claims

Please amend the claims as set forth in the following listing. This listing of claims will replace all prior versions, and listings, of claims for the present application:

1. (Currently Amended) A method of isolating a telephone line, comprising:

providing modem circuitry;

providing system side line isolation circuitry;

integrating the modem circuitry and system side line isolation circuitry within a single integrated circuit, the single integrated circuit configured to communicate through an isolation barrier;

providing an asynchronous serial port on the single integrated circuit, the asynchronous serial port being configured to communicate with a system-side external circuit; and

configuring the single integrated circuit to use the asynchronous serial port to transfer data formatted with HDLC framing ~~a-synchronous modem transmission protocol~~ between the single integrated circuit and the system-side external circuit through the asynchronous serial port;

asynchronously receiving HDLC framed data from system-side external circuit utilizing a pin on the integrated modem and system side line isolation circuitry to indicate when it is ready to receive data from the system-side external circuit; and

treating as end of frame indicator a condition where no HDLC framed data is being received by the integrated modem and system side line isolation circuitry while the pin is indicating that the integrated modem and system side line isolation circuitry is ready to receive data.

2. (Currently Amended) The method of claim 1, further comprising changing the state of the pin to not-ready when an end of frame event has been detected and changing the state of the pin back to ready when the integrated modem and system side line isolation circuitry is again ready to receive HDLC framed data ~~wherein the synchronous modem transmission protocol is an HDLC protocol.~~

3. (Original) The method of claim 1 wherein the asynchronous serial port is a transmit pin of the single integrated circuit.

4. (Original) The method of claim 1 wherein the asynchronous serial port is a receive pin of the single integrated circuit.

5. (Previously Presented) The method of claim 4, further comprising providing a transmit pin of the single integrated circuit, the receive pin and the transmit pins being asynchronous serial pins, the receive pin configured to receive modem information into the single integrated circuit from the external system-side circuit and the transmit pin configured to transmit modem information from the single integrated circuit to the external system-side circuit.

6. (Currently Amended) A method of transferring information between a modem circuit and an external circuit, comprising:

providing data formatted with HDLC framing ~~a synchronous modem transmission protocol~~ to an asynchronous serial pin of a modem circuit; ~~and~~

using the asynchronous serial pin to transfer the data formatted with the HDLC framing ~~synchronous modem transmission protocol~~ between the modem circuit and an external circuit through the asynchronous serial pin in an asynchronous manner;

using an end of frame indicator to indicate when a HDLC frame has ended; and

sending an HDLC result frame after the end of the HDLC frame and before transmitting a new HDLC frame, the HDLC result frame including information indicating a status for the previously sent HDLC frame;

wherein the modem circuit is integrated within a system side line isolation circuit.

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8. (Previously Presented) The method of claim 6, the system side line isolation circuit being configured to transfer data across an isolation barrier.

9. (Previously Presented) The method of claim 6, wherein the transferring comprises transmitting data from the modem circuitry to the external circuit.

10. (Original) The method of claim 9, further comprising the modem circuitry indicating synchronous modem transmission protocol information.

11. (Original) The method of claim 10, the synchronous modem transmission protocol information indicating an end of frame event.
12. (Currently Amended) The method of ~~claim 11~~ claim 6, ~~further comprising providing a~~ wherein the frame result word is configured to indicate one or more of the following conditions: that the HDCL frame was completed with a correct error check, that the HDCL frame was completed with an incorrect error check, or that the HDCL frame was aborted ~~at the serial pin.~~
13. (Original) The method of claim 10, the synchronous modem transmission protocol information provided at an output pin separate from the serial pin.
14. (Original) The method of claim 13, the synchronous modem transmission protocol information being an end of frame signal.
15. (Original) The method of claim 10, the synchronous modem transmission protocol information being provided through the serial pin.
16. (Original) The method of claim 15, the synchronous modem transmission protocol information being contained in at least one control bit of a word provided at the serial pin.
17. (Original) The method of claim 16, the synchronous modem transmission protocol information indicating an end of frame event.
18. (Previously Presented) The method of claim 6, wherein the transferring comprises transmitting data from the external circuit to the modem circuitry.
19. (Original) The method of claim 18, further comprising the modem circuitry indicating synchronous modem transmission protocol information.
20. (Original) The method of claim 19, the synchronous modem transmission protocol information provided at an output pin separate from the serial pin.

21. (Original) The method of claim 10, the synchronous modem transmission protocol information being a signal indicating that the modem is available to accept additional data.

22. (Original) The method of claim 21, the signal being a clear to send signal.

23. (Currently Amended) A method of transferring data between modem circuitry and an external circuit, the method comprising:

- providing the modem circuitry within an integrated modem and system side line isolation circuit;
- providing the integrated modem and system side line isolation circuit with an asynchronous serial pin;
- providing data formatted with HDLC framing ~~a synchronous modem transmission protocol~~ to the asynchronous serial pin; and
- using the asynchronous serial pin to transfer the data formatted with HDLC framing ~~the synchronous modem transmission protocol~~ between the modem circuitry and a system-side external circuit through the asynchronous serial pin; and
- using an end of frame indicator to indicate when a HDLC frame has ended;
- sending an HDLC result frame after the end of the HDLC frame and before transmitting a new HDLC frame, the HDLC result frame including information indicating a status for the previously sent HDLC frame.

24. (Original) The method of claim 23, the system side line isolation circuit configured to transfer data across an isolation barrier.

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26. (Previously Presented) The method of claim 23, further comprising:

- providing information on a first control pin separate from the serial pin when the modem is ready to accept additional data from the interface; and
- providing information either on a second control pin separate from the serial pin or on the serial pin indicating when an end of frame has occurred.

27. (Currently Amended) The method of claim 26, ~~wherein further comprising providing a~~ the frame result word is configured to indicate one or more of the following conditions: that the HDCL frame was completed with a correct error check, that the HDCL frame was completed with an incorrect error check, or that the HDCL frame was aborted at the serial pin.

28. (Original) The method of claim 26, the information indicating when an end of frame has occurred being contained in at least one control bit of a word provided at the serial pin.

29. (Original) The method of claim 26, the information indicating when an end of frame has occurred being provided on a second control pin separate from the serial pin.

30. (Currently Amended) Circuitry for transferring data formatted with HDLC framing a synchronous modem transmission protocol, comprising:

an integrated modem and line-isolation circuit;

an asynchronous serial pin, the asynchronous serial pin being an input or output pin of the integrated modem and line-isolation circuit;

a pin on the integrated modem and line isolation circuit to indicate when it is ready to receive data from an external circuit; and

means to enable use of the asynchronous serial pin to transfer of data formatted with HDLC framing the synchronous modem transmission protocol between the integrated modem and line-isolation circuit and an external circuit through the asynchronous serial pin;

wherein an end of frame is indicated when a condition occurs where no HDLC framed data is being received by the integrated modem and system side line isolation circuitry while the pin is indicating that the integrated modem and system side line isolation circuitry is ready to receive data.

31. (Original) The circuitry of claim 30 wherein the means comprises a control pin providing synchronous modem transmission protocol information.

32. (Original) The circuitry of claim 31, the synchronous modem transmission protocol information being end of frame information.

33. (Original) The circuitry of claim 31, the synchronous modem transmission protocol information being clear to send information.

34. (Original) The circuitry of claim 30 wherein the means comprises providing synchronous modem transmission protocol information at least one bit of words transferred through the asynchronous serial pin.

35. (Original) The circuitry of claim 34, the synchronous modem transmission protocol information being end of frame information.

36. (Currently Amended) The circuitry of claim 30, wherein the state of the pin is configured to be changed to not-ready when an end of frame event has been detected and the state of the pin is configured to be changed back to ready when the integrated modem and system side line isolation circuitry is again ready to receive HDLC framed ~~the synchronous modem transmission protocol being an HDLC framing protocol.~~

37. (Currently Amended) An integrated line isolation circuit, comprising:

modem circuitry and system side line isolation circuitry integrated within the line isolation circuit; and

an asynchronous serial interface pin coupled to the modem circuitry and the system side line isolation circuitry, the integrated line isolation circuit configured to use the asynchronous serial interface pin to transfer data formatted with HDLC framing a ~~synchronous modem transmission protocol~~ between the line isolation circuit and a system-side external circuit through the asynchronous serial interface pin, to use an end of frame indicator to indicate when a HDLC frame has ended, and to send an HDLC result frame after the end of the HDLC frame and before transmitting a new HDLC frame, the HDLC result frame including information indicating a status for the previously sent HDLC frame.

38. (Original) The circuit of claim 37, the line isolation circuit configured to transfer data across an isolation barrier.

39. (Currently Amended) The circuit of claim 37, wherein the HDLC result frame is configured to indicate one or more of the following conditions: that the HDCL frame was completed with a correct error check, that the HDCL frame was completed with an incorrect error check, or that the HDCL frame was aborted ~~the synchronous modem transmission protocol being a framed HDLC protocol.~~

40. (Previously Presented) The circuit of claim 37, further comprising:

a first control pin separate from the serial pin, information presented on the first control pin indicating when the modem is ready to accept additional data from the interface; and wherein information indicating when an end of frame has occurred is either indicated at a second control pin separate from the serial pin or indicated within information presented on the serial pin.

41. (Original) The circuit of claim 40 further comprising a second control pin separate from the serial pin, information indicating when an end of frame has occurred being presented on the second control pin.

42. (Original) The circuit of claim 37, further comprising a control pin separate from the serial pin, information presented on the first control pin indicating a synchronous modem transmission protocol event.

43. (Original) The circuit of claim 42, the synchronous modem transmission protocol event indicating an end of frame.

44. (Previously Presented) The circuit of claim 42, the synchronous modem transmission protocol event indicating when the modem is ready to accept additional data from the interface.

45. (Original) The circuit of claim 37, further comprising at least one control bit within words presented on the serial pin, the at least one control bit indicating a synchronous modem transmission protocol event.

46. (Original) The circuit of claim 45, the synchronous modem transmission protocol event indicating an end of frame.